|  |  |  |
| --- | --- | --- |
| 90 minutes | |  |
|  | Math Learning Goals  Participants will explore, discuss, understand:   * different meanings and representations of fractions * how their own experiences may influence and/or limit the types of fractions and/or representations they typically use in their teaching practice | Materials   * agenda and session goals * begin list of instructional strategies used * masking tape |
|  | Introduction (10 min.)  - introduce ourselves, session goals, norms, housekeeping items  Individual 🡪Sticker Bar Graph (5 min.)  - ask participants to introduce themselves at their tables  - ask participants to place a sticker on posted chart paper to indicate courses they will teach next year, or what courses they want to focus on during CAMPPP – one course per sticker | Materials   * computer, projector * ppt of session * stickers * bar graph set up on chart paper or wall |
| Minds On… |
| 15 min. |
|  | Whole Group 🡪 Fetter NCTM 2011 (5 min.) <http://www.screencast.com/t/dApzpmmZ>  Uses the question prompts of “What do you notice?” and “What do you wonder?” as a starting point for discussions and problem solving.  Individual 🡪 Notice and Wonder worksheet (5 min.)  Think about your experiences with students as they work with fraction concepts – wherever and however they come up in the Gr. 9-12 curriculum. Take a few minutes to jot down some thoughts on the worksheet.  Groups of 4 or 5 🡪 Share thoughts from worksheet (10 min.)  Share thoughts in small group. Select 1 or 2 items for whole group share.  Whole Group 🡪 Share items from small group (10 min.)  Record this on chart paper as part of curriculum connection and misconceptions about fraction concepts (Learning Wall). Summarize. Show [www.101.qs.com](http://www.101.qs.com).  Individual 🡪 Select a fraction and represent in many ways (10 min.)  Each participant will select/create a fraction – numeric, algebraic – and then represent it in as many ways as possible - each representation on a different sticky note.  Group 2 or 3 tables 🡪 List, Group, Label (23 min.)  Give each larger group 1 or 2 pieces of chart paper and a marker. Each group pools their sticky notes, categorizes them into whatever categories seem appropriate, and then labels each category. Post chart paper. | Materials   * video clip Fetter NCTM 2011 * Notice and Wonder worksheets * begin list of curriculum connections * begin list of fraction misconceptions * access to [www.101qs.com](http://www.101qs.com) * sticky notes * chart paper * markers * have concrete materials like linking cubes, square tiles |
| Action! |
| **Notice and Wonder**  **35 min.**  **Represent in Many Ways**  35 min. |
|  | Whole Group 🡪 Discussion of List, Group, Label Activity (5 min.)  Participants can take a few minutes to look at each group’s chart.  Engage whole group in responding to the following prompts:   * What criteria did you use to group the sticky notes on your page? * Which ones were difficult to place? * Were there some that you kept moving from category to category? Why? |  |
| Consolidate Debrief  5 min. |
|  |

I notice… I wonder…

Think about your experiences with students as they work with fraction concepts – wherever and however they come up in the Gr. 9-12 mathematics curriculum. Think about watching them, listening to them, talking to them, and reviewing their work. What have you noticed? What do you wonder? Take a few minutes to jot down some thoughts below.

|  |  |
| --- | --- |
| I notice… | I wonder… |
|  |  |

I notice… I wonder…

Think about your experiences with students as they work with fraction concepts – wherever and however they come up in the Gr. 9-12 mathematics curriculum. Think about watching them, listening to them, talking to them, and reviewing their work. What have you noticed? What do you wonder? Take a few minutes to jot down some thoughts below.

|  |  |
| --- | --- |
| I notice… | I wonder… |
|  |  |